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ALBERTA TREE NURSERY AND HORTICULTURE CENTRE

ALBERTA PRODUCE NOTES

ATN&HC #92 - VV03

Alberta
AGRICULTURE

CONTENTS

Alberta Fresh Vegetables go to Japan 1
Research Trials at the Horticulture Centres 1
Aster Yellows Widespread in Carrot Fields 2
Fall Seeding 3
1992 Alberta Farm Water Initiatives 3
Snow Harvesting Yields Runoff to Dugouts 4
Storage Disease of Vegetables 5
On the Move 6
What is ATN&HC About? 7
Announcements 9
For Sale 10
Upcoming Events 10
Mailing List Update 13

Editor: Belinda Choban
Vegetable Crops Specialist
serving Northern Alberta
Alberta Tree Nursery and Horticulture Centre
R. R. #6
Edmonton, Alberta
T5B 4K3

Phone: (403) 422-1789
Fax: (403) 472-6096

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The identified use or notation of any particular brand of product is not intended as a recommendation, nor should any recommendation be inferred.

ALBERTA FRESH VEGETABLES GO TO JAPAN

A Japanese/Alberta vegetable export project was initiated this year in cooperation with Bassano Growers, Alberta Agriculture and Seiyu America Incorporated from Japan. The project is a three year commitment to test-market Alberta fresh vegetables in the Japanese retail market.

On three occasions this summer, vegetables were exported to Japan by air freight. These included snowpeas, kobochi (winter squash), sweet corn, cooking onions and Chinese cabbage. In addition, one shipping container of broccoli and carrots left October 6 from Bassano Growers via Vancouver to Tokyo.

Paul Ragan has been field testing some new crops including burdock (gobo) and winter squash/buttonless buttercup (kobochi) and several Japanese varieties of commonly grown vegetables in Alberta including egg plant, hot pepper, daikon, Chinese cabbage, cauliflower, broccoli, green cabbage and cooking onions. These vegetables are being tested at Alberta Special Crops and Horticultural Research Center, Brooks for their adaptability to growing conditions in that area. If growth adaptability is successful, Alberta producers could be exporting fresh vegetables to Japan.

Paul Ragan along with a representative from Bassano Growers and three Alberta Agriculture Marketing Services employees from Edmonton will be leaving for Japan in late October this year. This team will be participating in the arrival, inspection and retail marketing of these commodities in Japan.

RESEARCH TRIALS AT THE HORTICULTURE CENTRES

Alberta Special Crops and Horticultural Research Center, Brooks:

Trials were conducted by the specialist, Dr. Paul Ragan with the assistance of the vegetable technologist Mike Blades and the summer help of four employees. A detailed report will be available November 1, 1992 by contacting Paul Ragan at ASCHRC, SS #4, Brooks, Alberta, T1R 1E6, phone (403) 362-3391.

Cultivar evaluations were done on 15 vegetables. Number of cultivars, size of trials and data collected was reduced. Culture trials consisted of the following:

- population studies in broccoli, winter squash, celery, and romaine lettuce
- pepper multi-station
- garlic fertility
- plastic mulch in slicing cucumbers
- cauliflower curd initiation
- acorn squash storage

Alberta Tree Nursery and Horticulture Centre, Edmonton:

The specialist, Belinda Choban assisted by the replacement technologist Aleksandra Bissani worked with four growers in conducting off-site trials. No trial work was done at the Centre. Cauliflower cultivar evaluation trials with five seeding/transplanting dates were done at Ellerslie and a trial in herbicide weed control in direct seeded cabbage was done at Bon Accord. Grower co-operative trials consisted of carrot cultivar evaluation, pickling cucumber cultivar evaluation and a broccoli fertility trial. A detailed report will be available November 1, 1992 by contacting Belinda Choban, ATN&HC, R. R. #6, Edmonton, Alberta T5B 4K3, phone (403) 422-1789.

The vegetable program no longer has a technologist and trial work will be difficult without grower co-operation. We encourage growers to conduct trials on their fields under the guidance of the specialist and to apply for financial assistance through the Farming For the Future, Farm Demonstration program. These forms are available at your local district agriculturist office.

Peace River:

Trial work in the Peace River area has ended.

Future

The research programs at the horticulture centres are faced with serving a gradually increasing industry with fewer human and material resources. As a result there is a need to priorize research requests to prevent duplication of resources. It is therefore very important for the industry to communicate and priorize its needs and capabilities.

ASTER YELLOWS WIDESPREAD IN CARROT FIELDS

Aster yellows in carrots was widespread throughout the province this summer. Infected plants ranged from 15 percent to 50 percent of the plants. The disease is caused by a microscopic organism (mycoplasma). It is carried and spread by leafhoppers feeding on the plant. Infected carrot leaves turn yellow or orange/bronze colour. Top growth becomes stunted and thick. The infected carrot becomes fibrous and hairy and later develop a bitter taste.

Aster yellows can also occur on celery, potatoes, onions and lettuce.

The leafhopper is carried into Alberta in early June on warm south-eastern winds from Manitoba, North Dakota and Minnesota. The level of infection in the carrots varies from year to year, depending on the number of leafhoppers reaching Alberta.

To control aster yellows, avoid planting crops next to forage legumes, cereal crops or perennial and biennial weed hosts. Foliar sprays of phosdrin 60SN, carbaryl 50WP, or methoxychlor 50WP may be used starting early June and onward. For rates and post harvest waiting period consult the chemical labels.

FALL SEEDING

Fall seeding of vegetables may get your vegetables into the market place earlier next season. Fall seeded lettuce, for example, will be ready for summer harvest at the same time as spring transplanted lettuce and with a lot less input costs. Onions (from seed), garlic, parsnips, carrots, spinach and lettuce can be fall seeded.

Seed in the late fall when soils are cold, prior to soil surface freeze-up. Usually the end of October is suitable. If the soil does not warm up after seeding, seeds will remain dormant until spring. In spring, when conditions are suitable the seeds will germinate.

Seed at heavier rates (up to double the rate) to compensate for loss in viability during the winter months. Trapped snow will provide insulation and protection. A cold winter with no snow cover will greatly decrease seed germination. Fall planting requires seeding at deeper depths. Carrots, lettuce and parsnip can be planted at a depth of one-half inch. Onion and spinach should be planted at a depth of one-half to one inch and garlic at a minimum depth of two inch. Drying winds and soil heaving may expose some seeds to the weather and thus decrease their viability.

Spring soil crusting may be a problem. Young shoots have difficulty growing through crusted soil. Soils higher in organic matter do not crush as readily as soils that are low in organic matter.

The success of fall seeding varies from year to year. Therefore do not rely on this method for planting your entire crops. Consider it as a means of supplementing your income.

1992 ALBERTA FARM WATER INITIATIVES ANNOUNCED

- Brad Klak and Maureen Osadchuk

Alberta Agriculture Minister Ernie Isley and Associate Agriculture Minister Shirley McClellan have introduced a number of water assistance measures in response to drought conditions.

Provincial dugout pumping rates are being reduced by 75 percent to allow producers to fill or top-up farm dugouts and reservoirs. Through the dugout pumping program, the province provides pumps and pipe to draw water from a source to farm dugouts. Producers are encouraged to fill their dugouts as soon as possible to take advantage of warmer weather and longer days.

The province-wide water hauling assistance program refunds producers for 50 percent of commercial haulings costs based on set, per mile rates. A maximum grant of $2,000 per farmer is available on hauls of less than five miles. Where longer hauls are necessary, the maximum grant is $3,000.

"In addition to these initiatives, which are estimated to cost approximately $1.65 million, the province is also increasing its funding to the Supplemental Rural Water Development Program, introduced in response to last year's drought in the northeast," adds Isley. "The response to the program was overwhelming, and we expect a cost overrun of approximately $2 million. To minimize delays in paying producers under this program, we are increasing provincial funding by $2 million to cover the shortfall."

Projects undertaken between January 1, 1992 and December 31, 1992 are eligible for these initiatives. The application deadline is March 31, 1993. Program details and application forms are available at Alberta Agriculture regional and district offices.

Taken from AgriNews, September 21, 1992.

SNOW HARVESTING YIELDS RUNOFF TO DUGOUTS

Alberta farmers harvest a lot of different crops, but snow harvesting may be new to many of them.

This fall Alberta Agriculture's engineering services branch, along with regional and district department staff, will be setting up snow harvesting demonstration sites around the province. "The purpose of the sites is to show how a snow fence can be used to trap snow for filling dugouts," says Darcy Fitzgerald, an agrologist with the branch.

This water management practice may be particularly useful because it's simple and low cost. "With water supplies in some parts of the province falling short of needs, small, inexpensive practices such as trapping snow to fill dugouts can easily be placed into the overall farm management plan," he says.

The quality and quantity of water entering a dugout is influenced by its location, construction and inlet channel(s). Size, topography, type of ground cover and use of the water shed area also play a role.

"By properly placing four to six feet high snow fences upwind of the dugout, a large amount of snow can be captured that might normally drift past," he says.

"Trapping snow to fill a dugout should also minimize nutrient contamination of dugout water, as well as reduce erosion and water losses connected to runoff," he adds.

"Research done in Wyoming by the United States Department of Agriculture (USDA) Forest Service on accumulating snow drifts as a water source for stock ponds has shown some positive results," Fitzgerald says.

Contact: Darcy Fitzgerald
427-2181

Taken from AgriNews, September 7, 1992.

STORAGE DISEASES OF VEGETABLES

Cabbages, carrots, onions and winter squash can all be kept in cold storage for two to four months after harvest. Diseases, however, can reduce storage quality and shorten the time that produce can be successfully held in storage. The most common and serious of these are bacterial soft-rot, caused by *Erwinia carotovora* pv *carotovora*; cottony soft-rot, caused by *Sclerotinia sclerotiorum*; Rhizopus soft-rot, caused by *Rhizopus stilonifera*; and grey mold and onion neck rot, caused by *Botrytis cinerea*. Produce infected with these diseases generally turn watery, then either becomes slimy or shrivel and become mummified.

Bacterial soft-rot appears slimy and generally has a foul odor. Produce infected with *S. sclerotiorum* may be covered with fluffy white cottony mold. Small hard black bodies called sclerotia can sometimes be seen. *R. stolonifera* appears whitish and may produce white or black sporangia that are shaped like tiny lollipops on long sticks. Produce affected by *B. cinerea* may show some evidence of greyish coloured mold. A number of diseases other than those listed above can be found in vegetable storage but they tend to be limited to specific commodities and generally are less common.

Storage disease becomes serious if the produce is badly bruised, abraded or damaged by frost at or before harvest. Produce with high levels of field disease is particularly prone to extensive break down after harvest. If a significant proportion of produce placed in storage develop bacterial soft-rot because of mechanical damage, frost or disease, it is very likely that adjacent healthy produce will decay extensively from soft-rot as well. It is not uncommon to lose the entire contents of a storage once soft-rot becomes established.

Spores or bacteria will only germinate and start new infections after harvest if droplets of water form on the outside of stored produce. Maintaining steady levels of temperature and humidity prevents surface condensation from developing. Adequate ventilation around containers or through bulk piles also prevents condensation and ensures that proper gas exchange is maintained as well. Storages that maintain steady conditions and have good ventilation usually have very low levels of diseases if the produce was in good condition at harvest.

Taken from Crop Protection Newsletter, February 1991.

ON THE MOVE

As part of a recently announced reorganization of the Plant Industry Division of Alberta Agriculture the Apiculture Section has joined the Alberta Tree Nursery and Horticulture Centre in northeast Edmonton. At the Tree Nursery and Horticulture Centre the section joins other departmental specialists as they liaise with commodity organizations. The responsibilities of the section remain the same but with a shift in emphasis to more extension activities.

Beekeepers and other interested persons are invited to come for a personal visit. The Horticulture Centre is relatively easy to reach at 17507 - Fort Road. Take the Manning Freeway east and north out of Edmonton and watch for the brown signs showing the location of the Centre.

Doug Colter, the other Apiculturist, will remain in Falher, with his address and phone number unchanged:

Doug Colter
Box 415
Falher, Alberta T0H 1M0
Phone: (403) 837-2211
FAX: 837-8228

The new address is:

Kenn Tuckey
Alberta Tree Nursery and Horticulture Centre
R.R. #6
17507 - Fort Road
Edmonton, Alberta T5B 4K3
Phone: (403) 422-1789
FAX: 472-6096

WHAT IS ATN&HC ABOUT?

- G. Grainger

The ATN&HC is committed to:

i) - increase the long-term profitability of,

ii) - assist in the diversification of, and

iii) - increase the skill and knowledge of primary specialty crop producers in Northern Alberta, and those dealt with by the Centre in provincial programs, including woody plant nursery producers, greenhouse and vegetable producers and the seed potato growers of Alberta. The client group also includes non-commercial users of horticulture products. Without the support of the consumer groups, profitability and expansion of commercial operations cannot be achieved. Diversification includes the need to expand and develop the Centre's expertise and capital commitment in concert with the needs of the producer community.

iv) - produce large numbers of shelterbelt trees and shrubs for crop producers of Alberta to protect their crops, livestock and farmsites from wind and low temperatures.

v) - maintain a leadership role in research biotechnology micropropagation, micropropagation pathology, and diseases of specialty crops.

vi) - develop a high level of expertise and extension capabilities to provide producers with the most up-to-date information for active product development and program use.

vii) - develop expertise and facilities for the enhancement of crops research as directed by the Division.

Taken from our Strategic Planning document the commitments allow us to plan areas for industry involvement. The document is not static but allows us flexibility to direct our resources as required to benefit industries we serve now and in the future. As resources change so must our involvement with industry. Within the next few months a review of programs will be completed. Industry input will be used as a foundation for this review. Short term budgetary demands may require more immediate reaction, but it is important to realize that the future of the industry will be considered before decisions are made.

In summary, the Alberta Tree Nursery and Horticulture Centre has responsibility for:

- Nursery crops
- The Seed Potato Program
- The Shelterbelt Program
- Several woody plant awareness programs
- Development of a crop product testing process
- Development of a strong capability in biotechnology, tissue culture, micropropagation and micropropagation pathology.
- Protected crop industry on a regional basis.
- Vegetable crop industry on a regional basis.
- Developing and implementing resources for extension programs to Alberta producers and consumers of horticulture crops.
- Developing further opportunities for crop diversification.
- Providing resources for alternative crop research and extension.

The reduction of input costs and input waste within the confines of environmental impact is a necessary step in our extension mandate.

ANNOUNCEMENTS

1. Beginner Market Garden Course - this course is scheduled for January 28, 1993, 9:00 a.m. to 4:00 p.m. at the Provincial Building in Innisfail. Course fee is $10. Pre-registration is required.

Please contact:	Paul Ragan 362-3391 Brooks	or	Belinda Choban 422-1789 Edmonton

2. Computers on Wheels is a mobile service based at four agricultural colleges around the province. Three introductory courses are available on computers for farm use, computerized financial records, and spreadsheets and databases. For more information on the program, contact your local Alberta Agriculture district office.

   Contact: Bruce Waldie
   556-4243

3. New publication to be available in early 1993 titled Diseases and Pests of Vegetable Crops in Canada.

   This book is a practical guide to the diagnosis and management of vegetable crops for producers, extension personnel, students, diagnosticians and others. Thirty-five millimetre slides representing the colour plates used in the book will also be available. An excellent resource book - watch for it.

4. Brooks Diagnostics Ltd. - this company offers comprehensive services in all areas of plant health and plant pest management. For further information phone: (403) 632-5555 or fax (403) 362-5556.

5. Sencor - can now be mixed with Edge for control of broadleaf and grassy weeds on peas. It can be applied as a split pre-emergent/post emergent treatment.

6. Agriculture Canada Food Production and Inspection Branch of Agriculture Canada has reorganized and relocated. The Agricultural Inspection Directorate and the Veterinary Inspection Directorate have amalgamated and relocated to Calgary. The program specialist for fruit and vegetables is now located at the Calgary Regional Office at 424, 220-4th Ave. S.E., Calgary, Alberta T2G 4X3, phone (403) 292-4364, fax (403) 292-6132. The district processed food products co-ordinator is Don Wismer. He has been relocated to the North District Office at 11713 - 82 St., Edmonton, Alberta, T5S 2V9, phone (403) 495-5577, fax (403) 495-3359.

7. Produce Hotline, 1-800-668-7763 - A permanent national program known as the "Produce Hotline" is now available. The Hotline is the fruit and vegetable industry's voice to consumers. The program was initially started as a pilot project in Ontario in late June 1991 and was funded by the Ontario produce industry. It was so successful that the decision was made to turn it into a permanent national program.

   Give the number to your customers to ask about how to buy, prepare and use fresh produce. Recommend your staff use it to ask questions about storage, display and selling features of fresh produce.

FOR SALE

1. Heavy duty Digital Platform Scale, 3,000 pound capacity, price negotiable.

   Contact: Dick Brenneis
   Phone: 473-7733 Edmonton

2. Single Row Potato Digger

   Contact: Bob Yaremko
   Phone: 472-6175 Edmonton

3. Seven foot, 3 point-hitch, "Big Ox", double disc, price $900

   Contact: Berries Unlimited
   Clarence and Judy Anderson
   Phone: 885-5204 Lacombe

UPCOMING EVENTS

November 5 - 7, 1992

The 6th annual Alberta Horticultural Congress and Trade Show, Coast Terrace Inn and Convention Inn South hotels, Edmonton, Alberta.

Contact: Simone Demers Collins
Phone: (403) 427-7366 Edmonton
Fax: (403) 422-3655 Edmonton

November 5, 1992

Alberta Fresh Vegetable Marketing Board annual meeting, 8:00 a.m., Coast Terrace Inn, Edmonton.

Contact: AFVMB
Phone: (403) 327-0447 Lethbridge

November 6, 1992

Alberta Market Gardeners Association annual meeting, 10:00 a.m., Coast Terrace Inn, Edmonton.

Contact: Tam Volk, AMGA
Phone: (403) 921-2272 Bon Accord

November 6, 1992

Alberta Greenhouse Growers Association annual meeting, 1:30 p.m., Coast Terrace Inn, Edmonton.

Contact: Judith Blanchette, AGGA
Phone: (403) 488-6928 Edmonton

November 11 - 14, 1992

Agri-Trade International Farm Equipment and Services Exposition, Westerner Park, Red Deer.

Contact: Pat Kennedy
Phone: (403) 347-4491 Red Deer

December 2 - 5, 1992

Landscape Alberta Nursery Trades Association annual meeting and trade show, Banff.

Contact: Nigel Bowles
Phone: (403) 489-1991 Edmonton

January 15 - 17, 1993

The 33rd annual Ohio Roadside Marketing Conference, Dayton, Ohio.

Contact: Dr. Kelso L. Wessel
Columbus, Ohio, U.S.A.
Phone: (614) 292-6413 Columbus
Fax: (614) 292-4749

January 26 - February 1, 1993	National Farmers' Direct Marketing Conference and Tours, Portland, Oregon, U.S.A. January 26 - 28 - Pre-Conference tour January 29 - 30 - Conference January 31 - February 1 - Post-Conference Tour Contact: E. Stritske Phone: (503) 678-5473 Portland
January 29 - February 1, 1993	68th Annual Convention and Trade Show of the Canadian Produce Marketing Association, Halifax, N.S. Contact: CPMA National Office Phone: (613) 226-4187 Halifax Fax: (613) 226-2984
February 2 - 4, 1993	Ohio Fruit and Vegetable Growers Congress, Toledo, Ohio, U.S.A. Contact: M. Pullins Phone: (614) 249-2424 Toledo
August 21 - 27, 1994	International Horticultural Congress, Kyoto, Japan in 1994. Contact: XXIVth IHC Congress Secretariat c/o Laboratory of Horticultural Science Faculty of Agriculture University of Tokyo 1-1-1 Yayoi, Bunkyoku Tokyo 113, Japan

ALBERTA PRODUCE NOTES

MAILING LIST UPDATE

(PLEASE PRINT CLEARLY TO ENSURE ACCURACY)

IF THIS FORM IS NOT RETURNED BY DECEMBER 15, 1992 YOUR NAME WILL BE DELETED FROM THE MAILING LIST.

Mail this form to:
Alberta Tree Nursery and Horticulture Centre
R.R. 6
Edmonton, Alberta
T5B 4K3

Attention: Pat Fulton

Name: ______________________________

Company: ______________________________

Address: ______________________________

______________________________ Postal Code: __________

Phone: ____________________

Do you wish to continue receiving "Alberta Produce Notes"?

______ YES ______ NO

If yes, please indicate your status:

___ Vegetable Grower
___ Government (horticulture staff)
___ Government (extension, other)
___ Industry
___ Out of Province (Specialists)
___ Farmers Market managers
___ Other

Do you have any comments or suggestions about the "Alberta Produce Notes" newsletter?

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ALBERTA TREE NURSERY AND HORTICULTURE CENTRE

ALBERTA PRODUCE NOTES

ATN&HC #93 - VV04

Alberta
AGRICULTURE

Produce Notes Subscriber

This will be the last issue of these extension notes. There have been many suggestions on the role of this publication and its value. It is often too difficult to maintain current topics from contributors. There was a suggestion from the Horticulture Review that such publications have little value. I would like to hear from you, if you gain or not from this type of publication. Do you have suggestions for improvements to better provide the information you need?

George Grainger

APN 10/02/93

CONTENTS

Enhanced Seed to Improve Vigor and Uniformity 1

Mini Vegetables 1

Sources for Certified Potato Seed 3

Flea Beetle Control - How Easy Can it Get? 6

Vegetable Production and Marketing in Japan 7

Brooks Vegetable Research Trials - 1993 9

Here's How to Kill and Organization 11

Announcements 12

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Vegetable Crop Extension Specialists:

A) Serving central and northern Alberta
Belinda Choban
Alberta Tree Nursery and
Horticulture Centre
R. R. #6
Edmonton, Alberta T5B 4K3

Phone: (403) 422-1789

B) Serving southern Alberta
Paul Ragan
Alberta Special Crops and
Horticultural Research Center
S. S. #4
Brooks, Alberta T1R 1E6

Phone: (403) 362-3391

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Enhanced Seed to Improve Vigor and Uniformity

- Paul Ragan

Research with a number of seed companies has shown that there are distinct benefits to be achieved from enhanced and primed seeds for vegetable transplant growing and precision seeding in the field.

Seed enhancement is the precision physical separation of seeds and priming relates to starting and stopping the germination process prior to root elongation. Both add costs to seed conditioning.

It takes about 15 days to complete all steps in the priming process. The steps are taken to maximize vigor in every seed. Only select seed lots that meet high quality standards for germination, vigor, size range and appearance are used for enhancement and priming.

Enhancements maximize germination; priming gives seed greater uniformity in emergence. The technology required to achieve both is highly guarded.

The technology allows seed to begin germinating at a wider temperature range. It also allows seed to emerge faster at a wider temperature range. This is of particular interest to growers in Alberta who do seeding under cold field conditions.

Enhanced seed has not been tested at the Research Center in Brooks. Unfortunately, most enhanced seed to date has focused on tomatoes and peppers, neither of which can be sown directly in the field in Alberta with any hope of producing ripe fruit.

Mini Vegetables

- Belinda Choban

Last year when I visited the Produce Market in Los Angeles, California, I saw many vendors selling mini vegetables. Mini cabbage, cauliflower and squashes plus small perfectly shaped beets, onions, parsnips and leeks. They were being sold mainly to the restaurant trade. A premium price was being charged for these vegetables. This covered the extra costs incurred by the grower in propagation, harvesting and packaging. Retail outlets were also buying mini vegetables. They told me that single people living alone preferred to buy mini vegetables. For example, often a whole head of cabbage was too much to be consumed by one person and the mini head wasn't. I was also served mini vegetables by the airline during my return flight. The vegetables were tasty and tender and looked very appealing even when served on plastic airline dishes.

Some mini vegetables, especially squash, are grown from suitable varieties that produce an excellent mini vegetable. However, others can be grown by modifying production techniques.

Elsoms Seeds in the U.K. has been experimenting with mini vegetables under high densities. Experiments were done in growing cauliflower at six inches by six inches, six inches by eight inches, nine inches by eight inches and ten inches by eight inches to achieve a spacing that will provide the best possible crop uniformity, size, yield and quality for a three inch diameter mini head market. Further studies with kohlrabi produced excellent mini roots under high density plantings. The purple type mini kohlrabi has been gaining popularity on the British market because of its eye-catching colour on retail shelves (vivid coloured roots with white flesh).

Mr. Hewitt of Elsoms Seeds has been experimenting with removing the growing point on summer cabbage and savoy cabbage to produce an excellent mini head.

This past summer I observed Mother Nature doing the same thing to many cabbage plants in growers' fields. These plants were exposed to stressful conditions such as unfavourable weather (frost, drought), inferior transplants and/or transplant shock. Many of these cabbage plants initially produced a blind head. Later, secondary growth occurred and produced several perfectly shaped miniature cabbage heads. I've noticed the same flush of secondary growth on cabbage plants remaining in the fields after a harvest.

Some suitable varieties for mini vegetable production are listed below:

1. Summer squash - zucchini selections, Sunbar, Sundance, Scallopini, Cousa.
2. Winter squash - Table Ace, Table Gold, Swan White, Golden Jersey.
   Note: 1. Baby squash is very fragile and won't ship well. It's best to have paper between layers to prevent bruising. Bruised skins decrease the product's shelf life.
   2. If harvesting the blossoms, harvest them in early morning and ones that have just opened. Cool them immediately by refrigeration and keep dry. Allow space between each one.
3. Beets - any variety especially round types.
4. Carrots - any varieties except imperator or chantenay types.
5. Lettuce - head - Minilake,
   - butterhead - any variety,
   - red type - Red Sails.

   Note: Coloured lettuce (red) and different textured lettuce is more appealing and sells better as garnishes and to restaurants.
6. Pepper - any bell types.
7. Pickling onions - any variety.
8. Leeks - any variety.
9. Potato - any variety.
10. Snow peas - any variety.
11. Cauliflower - any variety except Snowball series; best are Andes, White Top, White Rock.
12. Broccoli - any variety, best are Eureka, Emperor, Arcadia.
13. Early cabbage - any variety under high density (six inches apart).
14. Eggplant - any variety except sausage type.
15. Kohlrabi - any variety.
16. Tomatoes - any cherry type.
17. Beans - French filet "Marbel".

When selecting varieties to grow, select varieties that taste good when immature and ones that work well for you. Some realities to consider in production are:

1. Choose varieties for taste and colour.
2. Pick the mini vegetable at the right stage of growth (small but with taste).
3. Handle the product carefully, it may bruise easily and bruises decrease shelf life.
4. Cool the product immediately after picking and market right after harvest.
5. Fertilizing will improve product quality and taste.

In California a growing demand for this type of vegetable exists. Locally, a niche market needs to be explored. These niches will probably vary between regional markets. It is best to begin small when challenging this market and to figure out production costs so that you don't underprice.

Sources for Certified Potato Seed

If you plan to grow potatoes for marketing this year, you must plant certified seed potatoes (or better, such as foundation or elite).

Below is a list of sources for various certified or foundation potato varieties.

Variety	Grower	Class (acres) Foundation	Class (acres) Certified
AMISK	Henderson, W.J		0.50
ATLANTIC	Visser, Jim	65.00	
	Ypma, Siebe and Louis		78.00
BINTJE	Ypma, Siebe and Louis	30.00	
CARLTON	Henderson, W.J	5.00	0.50
MONONA	Cailliau, John		12.00
NORCHIP	Ypma, Siebe and Louis		93.00
NORGOLD RUSSET	Delanoy, Bill	22.00	
NORLAND	Henderson, W.J.	7.00	
	Hozack, Gordon	6.00	
	Johnson, Mel	0.25	
RUSSET BURBANK	Cailliau, John	40.00	
	Cole, Don	82.00	
	Cole, Glen	50.00	
	Henderson, W.J.	8.00	
	Hofer, John	49.00	11.00
	Paxman, Elbert	5.00	9.00
	Rozendaal, Madelyn		2.00
	Ypma, Siebe and Louis	70.00	
RUSSET NORKOTAH	Baerg, Ben	38.00	
	Rozendaal, Madelyn	2.00	

Variety	Grower	Class (acres) Foundation	Class (acres) Certified
	Visser, Gordon	53.00	
SANGRE	Henderson, W.J.	5.00	5.50
	Hofer, John	6.00	
	Rozendall, Madelyn		3.00
SHEPODY	Delanoy, Bill	25.00	
	Haarsma, Norm	233.00	10.00
	Visser, Jim	84.00	
	Ypma, Siebe and Louis	487.00	337.00
SNOWDEN	Delanoy, Bill	32.00	
	Ypma, Siebe and Louis		27.00
SUPERIOR	Ypma, Siebe and Louis	20.00	
VIKING	Johnson, Mel	0.20	
YUKON GOLD	Hofer, John	4.00	
	Johnson, Mel	0.50	
	Vanderleek, P and J	2.00	
	Visser, Gordon	75.00	

Grower List

Name	Address	Telephone
BAERG, Ben	Box 120 Vauxhall, Alberta T0K 2X0	752-2242
CAILLIAU, John	Box 1859 Enchant, Alberta T0K 0V0	739-2242
COLE, Don and Glen	P.O. Box 157 Marwayne, Alberta T0B 2X0	847-3077

Name	Address	Telephone
DELANOY, Bill	Prairieview Seed Potatoes Box 242 Vauxhall, Alberta T0K 2K0	654-2475
HAARSMA, Norm	Haarsma Farms Ltd. R. R. #2 Spruce Grove, Alberta T7X 2T5	962-0576
HENDERSON, W.J.	Box 214 Berwyn, Alberta T0H 0E0	338-2128
HOFER, John Sr.	Holden Seed Potato Growers P.O. Box 59 Holden, Alberta T0B 2C0	688-2428
HOZACK, Gordon	Silverbirch Farms Ltd. P.O. Box 50 Streamstown, Alberta T0B 4G0	847-2581
JOHNSON, Mel	52 Sandstone Rd. N.W. Calgary, Alberta T3K 2X1	275-3529
PAXMAN, Elbert	Box 1155 Glenwood, Alberta T0K 2R0	626-3490
ROZENDAAL, Jake	Prairie View Farms Box 991 Taber, Alberta T0K 2G0	725-2214
VANDERLEEK, Peter and Jake	Vanderleek Farms Ltd R. R. #1 Blackfalds, Alberta T0M 0J0	885-4384 885-4461
VISSER, Gordon	Norbest Farms R. R. #6 North Edmonton, Alberta T5B 4K3	472-6118
VISSER, Jim	Visser Farms (1984) Ltd. Box 171 R. R. #6 Edmonton, Alberta T5B 4K3	472-6127

Name	Address	Telephone
YPMA, Siebe and Louis	Tri-Seeds Ltd Box 1299 Taber, Alberta T0K 2G0	223-8111 223-8444

Flea Beetle Control - How Easy Can it Get?

- Paul Ragan

Vitavax RS Flowable is a new systemic seed treatment registered for flea beetle control in cole crops - cabbage, cauliflower, broccoli and Brussels sprouts. This highly effective insecticide works effectively in controlling flea beetle attack during the critical seedling stage, especially a problem when seedlings are just emerging. Properly applied, Vitavax RS Flowable will provide flea beetle control for at least three weeks.

Treat seed at a rate of 22.5 mL or 31 g per kg of seed. The easiest method includes the following: Place seed in a clean jar and fill not more than one-third with seed; add small amount of chemical, close jar and shake vigorously until chemical is uniformly coated over the seed; add more seed or chemical until seed is uniformly blue in color, dry and free flowing.

Properly treated seed can be sown by any drill including the Stanhay. Treat seed as close to seeding as possible. Do not store treated seed for more than six months.

Vitavax RS Flowable is available in four litre containers and is available through any Uniroyal chemical supplier.

Vitavax RS Flowable is registered for use under the minor use program.

Vegetable Production and Marketing in Japan

- Paul Ragan

In late October 1992, Paul Ragan had the opportunity to view a part of the agricultural industry in Japan, the fresh vegetable industry.

To feed the Japanese masses, vegetable producers numbering close to one-half million have been extremely successful. Production occurs on very small land parcels most of which are tucked in among housing complexes and industrial development sites. The average farm is about two hectares in size and is operated by a family unit that often includes two generations. Some specialize in four to five vegetables, others grow a wider range of crops.

As a Canadian looking at Japanese vegetable production, one is compelled to call it intensified market gardening. The most evident observation is the labor intensive nature of their industry and the lack of mechanization we in Canada are accustomed to seeing. Questions about Stanhay precision seeding, mechanical transplanters or grading equipment are met with shaking heads. Although much home engineered equipment could be seen, such as plastic mulch layers and washing facilities, most everything is done by rototiller with ridging etc. accessories and the hoe. Fingers do precision planting and thinning of daikon and Chinese cabbage in plastic mulch and fingers thin row after row of carrots. All crops are immaculate; not a weed could be seen anywhere. Just imagine the best tended garden you have ever seen but expand that image to one or two hectares in size. That's a picture of Japanese vegetable production.

Diet dictates variety and Japanese consumers have a passion for daikon, Chinese cabbage, carrots and winter squash called "kabocha". Other less popular vegetables include sweet corn, cooking onions, green cabbage, leeks, broccoli and cauliflower.

As Canadians, we cannot imagine the fuss Japanese consumers make over quality. Quality does not only apply to freedom from blemishes and mechanical damage but quality extends to rigorous demands for uniformity in size, shape and color. All roots, heads, etc. in a box or bag must look identical. One must ask the question about how much goes to waste to achieve such quality standards. Very little is the answer because as earlier stated, so much hand labor goes into the production of vegetables there is little room for mechanical error or damage.

The marketing system is one producers in Alberta should pay attention to. It begins at production where countless farmer-owned and operated coops plan production and then package assembled vegetables in a centralized packing shed. All crops are grown by member units which headed by a chairman determine how much of a commodity is to be grown, when it is to be grown, so as to assure continuous supply and oversee production to ensure quality standards are met. For example, there could be a daikon unit, a carrot unit and so on. Any grower member could belong to more than one unit so long as he is growing the unit crop. The more successful coops will hire a manager that handles the marketing and administrative functions. This coop system allows both large and small growers equal access to the market.

All fresh vegetables are sold through a central sales facility. These facilities are located in major urban centres. Most operate on a six-day basis. Grower owned coops and independent growers haul a supply of vegetables to these markets in the night as the auction often begins at 4:00 a.m. Most vegetables are beautifully packaged in cardboard boxes. There shop owners, larger retail chain buyers and restaurant operators purchase their daily or weekly supply of vegetables. The market is extremely noisy and chaotic but organized in its apparent confusion as the building is clear of people and produce by noon each day.

At the retail level, great detail is given to presentation. The Japanese housewife shops every day so the retailers package everything into one-day serving sizes. Chinese cabbage is quartered, cauliflower cut in half and many vegetables like carrots, onions and daikon are individually wrapped. Everything is either put into a cello bag or wrapped in cellophane. It is here that one beings to appreciate the need and detail given to uniformity. Most vegetables are sold by unit and not weight. Appearance has been primary in the marketing of vegetables in Japan and only recently has flavor become important. For a diet that is almost devoid of sugar, the Japanese ironically will pay more for sweet tasting vegetables in an attempt to get the sugar their bodies crave.

Brooks Vegetable Research Trials - 1993

A continued erosion in the budget allocated to operation of this program has resulted in the reduction of program activities and emphasis. Costs of hiring casual manpower continue to rise and still remain as the single most costly input. This fact alone impacts program activities the most. The following is the status of research for this year.

1. Variety Trials

CROP	REMARK
Asparagus	- none
Beans, snap	- none
Beets, red	- none
Broccoli	- standards: 4 succession transplants, 6 seedings - introductions: 1 transplant, 3 succession seedings
Cabbage	- none
Cauliflower	- standards: 6 succession transplants, 4 seedings - introductions: 1 transplant, 3 succession seedings
Cabbage, Chinese	- standards: 6 succession seedings - introductions: 3 succession seedings
Carrots	- imperator & nantes only
Celery	- none
Corn, sweet	- continue, Se & Sh_2 only
ornamental & popcorn	- continue
Cucumbers	- pickling & slicing
Eggplant	- none
Lettuce	- none
Onions, cooking	- continue
green	- new for 1993
Peas, fresh market	- continue
snow	- new for 1993
Peppers	- none
Pumpkin	- continue
Radish, summer	- none
daikon	- 6 succession seedings
Rhubarb	- continue
Rutabaga	- none
Squash, winter	- continue
summer	- none
Tomatoes	- none

2. Cultural/Storage Trials

CROP	REMARK
Broccoli	- plug size influence on maturity
Cauliflower	- plug size influence on maturity
Carrots	- washed vs unwashed root storage - cut crown vs uncut crown root storage - overwintering roots outdoors - sugar concentration changes during storage
Celery	- plug size influence on maturity
Cucumbers, slicer	- 4 new plastic mulches influence on production
Garlic	- raised-bed, non raised-bed and rototilled soil treatments
Rhubarb	- chemical analysis of 10 varieties
Squash, winter	- refrigerated storage of acorn squash
summer	- transplant vs direct seed zucchini

3. On-Farm Demonstrations

This research area is a growing concern as several producers have requested assistance in solving production problems at the farm site. Such projects are more costly to conduct as travel and meal allowances are added costs. Where such projects are conducted, the grower is being asked to finance these added costs. In 1993, trials will be conducted at two on-farm sites in southern Alberta.

Here's How to Kill an Organization

Reprinted from Speedy Bee, May 1991
By Palmetto Pestalk

1. Don't come to meetings.
2. If you do come, come late.
3. If the weather doesn't suit you, don't think of coming.
4. If you attend a meeting, find fault with the work of other officers and members.
5. Never accept an office or assignment - it is easier to criticize than to do things.
6. Nevertheless, get sore if you are not appointed to a committee. Of course, if you are appointed, gripe, and don't attend meetings.
7. If asked to give your opinions regarding an important matter, say nothing. After the meeting tell everyone how things should be done.
8. Do nothing more than necessary. If other members work willingly and unselfishly, howl that your organization is run by the big boys.
9. Don't bother to get to know new members.
10. Don't tell you manager or the board of directors how they can help you - but if they don't, resign.
11. Keep your eyes open for something wrong, and when you find it resign or at least raise Cain.
12. When you attend a meeting, vote to do something, then go home and do the opposite.
13. Agree to everything said at the meeting, and disagree with it outside.
14. Get all the assistance your organization gives, but don't give it any in return.
15. Talk cooperation with the other members; but never cooperate.
16. At every opportunity, threaten to resign. Then get your friends to resign also.
17. When everything else fails, cuss your manager and board of directors.

Does this remind you of anyone or the current state of any organization you belong to?

Announcements

1. Mulch and Tunnel Plastics

- Available in black mulch 3 feet and 4 feet by 2,000 feet, clear mulch 4 feet by 2,000 feet and clear tunnel 6 feet by 2,000 feet.

- Place your orders between February 20 and March 5, 1993.

- Prices are available by phone.

- Contact:

Bio-Way Inc.
R. R. 2
Leduc, Alberta
T9E 2X2

Phone: 986-1067

2. New Publication Available

Cucumber Diseases by Agriculture Canada is an excellent booklet discussing diseases (causes and controls) in both greenhouse and field production of cucumbers.

You can obtain your copy from Paul Ragan at 362-3391 or Belinda Choban at 422-1789 or direct from Agriculture Canada (publication 1684/E)